

CLAIMS

What is claimed is:

1. A method of writing a track of servo information to a rotatable storage medium having a plurality of servo wedges, comprising:

determining whether a location of a write element is within a threshold distance of a desired location;

inhibiting writing of servo information to the track by the write element when the location of the write element is not within the threshold distance; and

resuming writing of servo information to the track after the location of the write element is determined to be within the threshold distance.

2. The method of claim 1, wherein determining whether a location of a write element is within a threshold distance of a desired location includes determining whether a location of a write element is within a threshold distance of a desired write location.

3. The method of claim 1, further comprising:

writing to memory an indication that writing of servo information was inhibited when the location of the write element is not within the threshold distance.

4. The method of claim 1, further comprising:

writing to memory an indication of servo information that was written to the track.

5. The method of claim 1, wherein writing of servo information includes at least one of writing servo information and trimming servo information.

6. The method of claim 4, wherein writing to memory comprises writing to memory an indication of servo wedges for which writing of servo information was inhibited.

7. The method of claim 1, wherein determining whether a location of a write element is within a threshold distance of a desired location includes determining whether a location of a write element is within a threshold distance of a desired location using a position error signal generated from a reference track.

8. The method of claim 1, further comprising:
attempting to write servo information for which writing was inhibited during a subsequent revolution of the rotatable storage medium.

9. The method of claim 8, wherein attempting to write servo information comprises attempting to write the servo information without re-writing any previously written servo information.

10. The method of claim 1, wherein determining whether a location of a write element is within a threshold distance of a desired location comprises determining whether an actual location of the write element is within the threshold distance of the desired location.

11. The method of claim 1, wherein determining whether a location of a write element is within a threshold distance of a desired location comprises determining whether a predicted location of the write element is within the threshold distance of the desired location.
12. The method of claim 1, further comprising:
increasing the threshold distance when the track of servo information is not written after a number of revolutions of the rotatable storage medium.
13. The method of claim 12, wherein the threshold distance is increased by an amount determined from a position error of the write element.
14. The method of claim 12, further comprising:
determining the number of revolutions using a characteristic of the track.
15. The method of claim 1, further comprising:
writing servo information to the track unconditionally after a number of revolutions of the rotatable storage medium.
16. A method of writing a target track of servo information to a rotatable storage medium having a plurality of servo wedges, comprising:
determining a position error signal generated as a head reads reference track servo information;

inhibiting writing of servo information to the target track when a value of the position error signal exceeds a threshold value;

determining at least a second value of the position error signal when writing is inhibited, wherein writing can be resumed for the target track after the second value is within the threshold value.

17. The method of claim 16, wherein the reference track servo information is located on the rotatable storage medium.

18. A method of writing a track of servo information to a rotatable storage medium having a plurality of servo wedges, comprising:

determining a first distance between a first location of a write element and a first desired write location; and

inhibiting writing of servo information for the track when the first distance exceeds a threshold distance;

wherein at least a second distance between a second location of the write element and a second desired write location is determined when writing is inhibited, whereby writing can be resumed for the track when the second distance is within the threshold distance.

19. The method of claim 18, wherein writing can be resumed without re-writing any previously written servo information for the track.

20. A method of servowriting a rotatable storage medium having a plurality of servo wedges, comprising:

determining a distance between a desired location of servo information for each of the servo wedges and a location of a write element adapted to write the servo information;

determining whether the distance is greater than a threshold distance; and

inhibiting writing of the servo information for each of the servo wedges for which the distance is greater than the threshold distance.

21. The method of claim 20, further comprising writing the servo information for each of the servo wedges for which the distance is not greater than the threshold distance.

22. The method of claim 20, wherein inhibiting writing of the servo information comprises inhibiting writing of the servo information to be written in a servowriting pass for each of the servo wedges for which the distance is greater than the threshold distance.

23. The method of claim 20, wherein determining a distance comprises determining a distance between a desired location of servo information for each of the servo wedges and a predicted location of a write element

24. The method of claim 20, further comprising:

attempting to write the servo information for each of the servo wedges for which the distance is greater than the threshold distance during a subsequent revolution of the rotatable storage medium.

25. A method of servowriting a rotatable storage medium having a plurality of servo wedges, comprising for each of the servo wedges:

determining a distance between a desired location of servo information to be written for the servo wedge and a location of a write element adapted to write the servo information; determining whether the distance is greater than a threshold distance; and inhibiting writing of the servo information for the servo wedge when the distance is greater than the threshold distance.

26. A method of servowriting a track of a rotatable storage medium having a plurality of servo wedges, comprising:

determining a distance between a desired location of servo information for each of the servo wedges at the track and a location of a write element adapted to write the servo information; determining whether the distance is greater than a threshold distance; and inhibiting writing of the servo information for each of the servo wedges at the track for which the distance is greater than the threshold distance.

27. A method of servowriting a track of a rotatable storage medium having a plurality of servo wedges, comprising for each of the servo wedges:

determining a distance between a desired location of servo information to be written for the servo wedge at the track and a location of a write element adapted to write the servo information; determining whether the distance is greater than a threshold distance; and inhibiting writing of the servo information to the servo wedge at the track when the distance is greater than the threshold distance.

28. A method of performing a servowriting pass for a rotatable storage medium having a plurality of servo wedges, comprising:

determining a distance between a desired location of servo information to be written during the servowriting pass for each of the servo wedges and a location of a write element adapted to write the servo information;

determining whether the distance is greater than a threshold distance; and
inhibiting writing of the servo information to be written during the servowriting pass for each of the servo wedges for which the distance is greater than the threshold distance.

29. The method of claim 28, further comprising:

attempting to write the servo information to be written during the servowriting pass for each of the servo wedges for which writing was inhibited during a subsequent revolution of the rotatable storage medium during the servowriting pass.

30. A method of performing a servowriting pass for a rotatable storage medium having a plurality of servo wedges, comprising for each of the servo wedges:

determining a distance between a desired location of servo information to be written for the servo wedge during the servowriting pass and a location of a write element adapted to write the servo information;

determining whether the distance is greater than a threshold distance; and
inhibiting writing of the servo information to be written for the servo wedge during the servowriting pass when the distance is greater than the threshold distance.

31. The method of claim 30, further comprising:

attempting to write the servo information to be written for the servo wedge during the servowriting pass during a subsequent revolution of the rotatable storage medium during the servowriting pass when the distance is greater than the threshold distance.

32. A method of performing a servowriting pass for a rotatable storage medium having a plurality of servo wedges, comprising:

determining a first distance between a first location of a write element and a first desired write location;

inhibiting the writing of servo information to be written to the first desired location and determining a second distance between a second location of the write element and a second desired write location in an attempt to write servo information to the second desired write location when the first distance is greater than a threshold distance.

33. A method of performing a servowriting pass for a rotatable storage medium having multiple servo wedges, comprising:

determining a location of a write element relative to a desired write location for each of the servo wedges encountered during the servowriting pass; and

writing servo information for each of the servo wedges for which the location of the write element is within a threshold distance of the desired write location.

34. The method of claim 33, comprising:

inhibiting writing servo information for each of the servo wedges for which the location of the write element is not within the threshold distance of the desired write location.

35. A method of servowriting a track of servo information to a rotatable storage medium having a plurality of servo wedges, comprising:

determining a position-error of a write element;

determining a direction of the position-error;

when the direction of the position-error is in a direction of servowriting propagation:

determining whether the position-error is within a first threshold;

inhibiting writing of servo information to the track by the write element when the position-error is not within the first threshold;

resuming writing of servo information to the track after the position-error is determined to be within the first threshold;

when the direction of the position-error is in a direction opposite to servowriting propagation:

determining whether the position-error is within a second threshold;

inhibiting writing of servo information to the track by the write element when the position-error is not within the second threshold; and

resuming writing of servo information to the track after the position-error is determined to be within the second threshold.

36. The method of claim 35, wherein the first threshold is smaller than the second threshold.

37. A method of servowriting a track of servo information to a rotatable storage medium having a plurality of servo wedges, comprising:

determining a distance between a desired location of servo information for each of the servo wedges and a location of a write element adapted to write the servo information;

writing and trimming servo information for each of the servo wedges for which the distance is less than a first threshold distance;

writing or trimming servo information for each of the servo wedges for which the distance is greater than the first threshold distance and less than a second threshold distance;

inhibiting writing and trimming of servo information for each of the servo wedges for which the distance is greater than the second threshold distance.

38. A method of servowriting a track of servo information to a rotatable storage medium having a plurality of servo wedges, comprising:

determining a distance between a desired location of servo information for each of the servo wedges and a location of a write element adapted to write the servo information;

writing and trimming servo information using write current variation for each of the servo wedges for which the distance is less than a first threshold distance;

writing or trimming servo information for each of the servo wedges for which the distance is greater than the first threshold distance and less than a second threshold distance;

inhibiting writing and trimming of servo information for each of the servo wedges for which the distance is greater than the second threshold distance.

39. The method of claim 38, wherein writing and trimming servo information using write current variation includes:

adjusting the size of servo information written and trimmed by the write element such that at least one edge of the servo information is in the desired location when written and trimmed.

40. The method of claim 39, wherein adjusting the size of servo information written and trimmed by the write element is accomplished by adjusting a write current supplied to the write element when writing and trimming the servo information.